Industrial Gas Turbines

The comprehensive product range from 4 to 47 megawatts

Answers for energy.

SIEMENS

Meeting your needs, driving your profitability: Industrial gas turbines from Siemens

A reliable, environmentally friendly and cost-effective power supply is a key driver for a profitable and sustainable business. Whether you are an oil and gas company, an EPC or architect engineer, a power producer or a power user, we are able to offer gas turbine based solutions which will exactly meet your needs and increase your profitability.

Our industrial gas turbine range comprises nine models with capacities from 4 to 47MW, designed with your profitability in mind. Whatever the application, our gas turbines meet the requirements for efficiency, reliability and environmental compatibility, giving low life-cycle costs and the best possible return on investment.

Whether for the production of power and heat, or the transport of oil and gas, our proven turbines are among the most practical and economical prime movers.

Dry Low Emission (DLE) combustion is standard throughout the product range, to minimize NO_x emissions and ensure that our turbines comply with both global and regional emission regulations. Our leading-edge turbine technology offers broad fuel flexibility and outstanding efficiencies for economic fuel consumption and low CO_2 emissions.

Our solutions include:

- gas turbine generating sets
- gas turbines for power generation and mechanical drive applications
- gas turbines for marine applications
- full range of extended scope solutions for the oil and gas industry
- full range of extended scope solutions for power producers and users
- power plants
- lifetime service and support packages

1. Siemens gas turbine package
A 5.25 MW(e) industrial gas turbine cogeneration package, including an SGT-100 gas turbine, generator and auxiliaries, providing heat and power.

2. Göteborg Energi AB, Rya, Gothenburg
Three 45 MW(e) SGT-800 gas turbines at the combined heat and power plant provide electricity and heating to the city of Gothenburg.

3. Sasol Technology (Pty) Ltd, South Africa
The 13.4MW SGT-400 gas turbine is the key component to the two pipeline compressor sets installed at the Komatipoort compressor station.

4. Wingas compressor station, Eischleben, Germany
Two Siemens compressor trains, each powered by a 30 MW SGT-700 gas turbine, boosting the pipeline pressure for natural gas transport.

Power generation and industrial applications

Independent power producers, utilities and municipalities:

- Simple cycle and combined cycle power plants for base load, standby power and peak lopping
- Cogeneration for industrial plants with high heat load and district heating schemes

Power users:

- Chemical plants and pharmaceuticals
- Food and beverage plants
- Automotive plants, mining, heavy industry
- Pulp and paper, textiles
- Hospitals, universities and other building complexes
- Marine propulsion, other process and manufacturing industries

Oil and gas industry

Upstream – onshore and offshore production, fixed and floating:

- Prime movers for water injection and crude oil pumping, gas lift, gas/oil separation
- Well depletion/wellhead boosting, natural gas and sour gas injection
- Gas gathering and export gas compression, refrigeration compression for gas-processing plant
- Power generation and power supply

Midstream – pipelines, storage and LNG:

- Gas turbine driven compressors and pumps, e.g. for high-pressure gas transmission pipelines and oil pumping
- Power generation and refrigerant compression for liquefied natural gas (LNG)

Downstream – refineries, petrochemicals, GTL:

- Gas to liquids (GTL) – power generation
- Refinery – power generation

Industrial gas turbines

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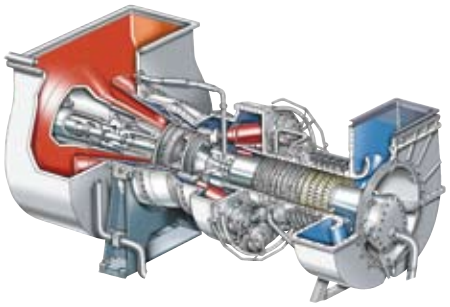
SGT-100

Power generation	**5.4MW(e)**
• Fuel:	Natural gas *
• Frequency:	50/60Hz
• Electrical efficiency:	31 %
• Heat rate:	11,613kJ/kWh (11008Btu/kWh)
• Turbine speed:	17,384 rpm
• Compressor pressure ratio:	15.6:1
• Exhaust gas flow:	20.6kg/s (45.4lb/s)
• Exhaust temperature:	531° C (988° F)
• NO_x emissions (with DLE, corrected to 15 % O_2 dry):	≤ 25ppmV

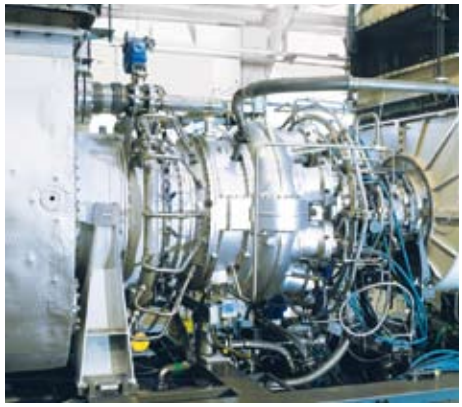
Mechanical drive	**5.7MW (7,640bhp)**
• Fuel:	Natural gas *
• Efficiency:	32.9 %
• Heat rate:	10,948kJ/kWh (7,738Btu/bhph)
• Turbine speed:	13,000 rpm
• Compressor pressure ratio:	14.9:1
• Exhaust gas flow:	19.7kg/s (43.4lb/s)
• Exhaust temperature:	543° C (1009° F)
• NO_x emissions (with DLE, corrected to 15 % O_2 dry):	≤ 25ppmV

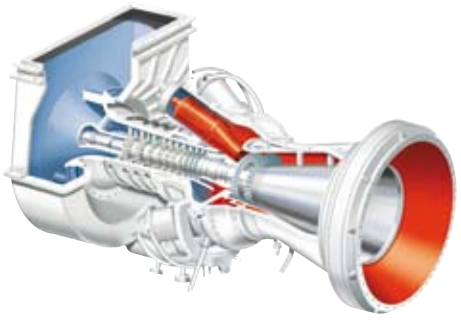


SGT-200

Power generation	**6.75MW(e)**
• Fuel:	Natural gas *
• Frequency:	50/60Hz
• Electrical efficiency:	31.5 %
• Heat rate:	11,418kJ/kWh (10,823Btu/kWh)
• Turbine speed:	11,053 rpm
• Compressor pressure ratio:	12.2:1
• Exhaust gas flow:	29.3kg/s (64.5lb/s)
• Exhaust temperature:	466° C (871° F)
• NO_x emissions (with DLE, corrected to 15 % O_2 dry):	≤ 25ppmV

Mechanical drive	**7.68MW (10,300bhp)**
• Fuel:	Natural gas *
• Efficiency:	33 %
• Heat rate:	10,906kJ/kWh (7,708Btu/bhph)
• Turbine speed:	10,950 rpm
• Compressor pressure ratio:	12.3:1
• Exhaust gas flow:	29.5kg/s (65.0lb/s)
• Exhaust temperature:	489° C (912° F)
• NO_x emissions (with DLE, corrected to 15 % O_2 dry):	≤ 15ppmV

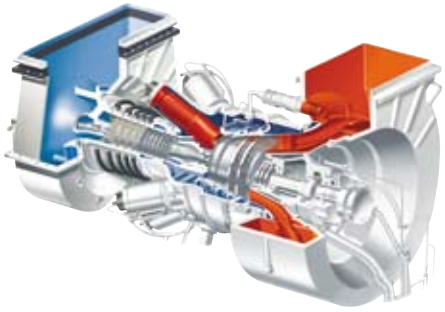


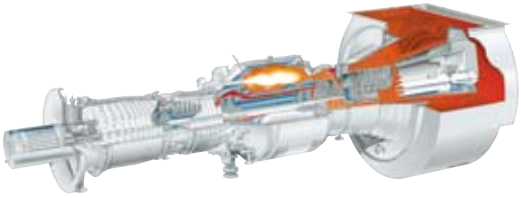


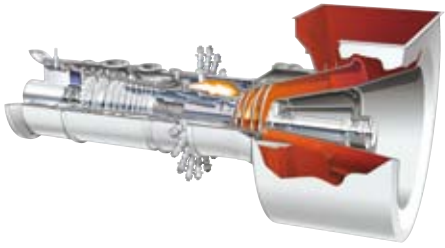
SGT-300

Power generation	**7.90MW(e)**
• Fuel:	Natural gas *
• Frequency:	50/60Hz
• Electrical efficiency:	30.6 %
• Heat rate:	11,773kJ/kWh (11,158Btu/kWh)
• Turbine speed:	14,010 rpm
• Compressor pressure ratio:	13.7:1
• Exhaust gas flow:	30.2kg/s (66.6lb/s)
• Exhaust temperature:	542° C (1008° F)
• NO_x emissions (with DLE, corrected to 15 % O_2 dry):	≤ 15ppmV

Mechanical drive	**8.2MW (11,000bhp)**
• Fuel:	Natural Gas *
• Efficiency:	34.6 %
• Heat rate:	10,400 kJ/kWh (7,350 Btu/bhph)
• Turbine speed:	11,500 rpm
• Compressor pressure ratio:	13.3:1
• Exhaust gas flow:	29.0 kg/s (63.9 lb/s)
• Exhaust temperature:	498°C (928° F)
• NO_x emissions (with DLE, corrected to 15 % O_2 dry):	≤ 15ppmV







SGT-400

Power generation **12.90MW(e)**

- Fuel: Natural gas*
- Frequency: 50/60Hz
- Electrical efficiency: 34.8 %
- Heat rate: 10,355kJ/kWh (9,815Btu/kWh)
- Turbine speed: 9,500 rpm
- Compressor pressure ratio: 16.8:1
- Exhaust gas flow: 39.4kg/s (86.8lb/s)
- Exhaust temperature: 555° C (1,031° F)
- NO_x emissions (with DLE, corrected to 15 % O_2 dry): ≤ 15ppmV

Mechanical drive **13.40MW (18,000bhp)**

- Fuel: Natural gas*
- Efficiency: 36.2 %
- Heat rate: 9,943kJ/kWh (7,028Btu/bhph)
- Turbine speed: 9,500 rpm
- Compressor pressure ratio: 16.8:1
- Exhaust gas flow: 39.4kg/s (86.8lb/s)
- Exhaust temperature: 555° C (1,031° F)
- NO_x emissions (with DLE, corrected to 15 % O_2 dry): ≤ 15ppmV

SGT-500

Power generation **19.10MW(e)**

- Fuel: Natural gas
- Frequency: 50/60Hz*
- Electrical efficiency: 33.8 %
- Heat rate: 10,664 kJ/kWh (10,107 Btu/kWh)
- Turbine speed: 3,600 rpm
- Compressor pressure ratio: 13:1
- Exhaust gas flow: 97.9 kg/s (215.9 lb/s)
- Exhaust temperature: 369° C (697° F)
- NO_x emissions (with DLE, corrected to 15 % O_2 dry): ≤ 42ppmV

Mechanical drive **19.52 MW (26,177bhp)**

- Fuel: Natural gas*
- Efficiency: 34.5 %
- Heat rate: 10,432kJ/kWh (7,373Btu/bhph)
- Turbine speed: 3,450 rpm
- Compressor pressure ratio: 13:1
- Exhaust gas flow: 97.9 kg/s (215.9 lb/s)
- Exhaust temperature: 369° C (697° F)
- NO_x emissions (with DLE, corrected to 15 % O_2 dry): ≤ 42ppmV

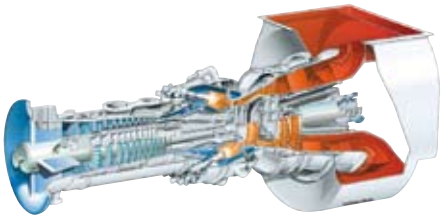
SGT-600

Power generation **24.77MW(e)**

- Fuel: Natural gas*
- Frequency: 50/60Hz
- Electrical efficiency: 34.2 %
- Heat rate: 10,533kJ/kWh (9,983Btu/kWh)
- Turbine speed: 7,700 rpm
- Compressor pressure ratio: 14:1
- Exhaust gas flow: 80.4kg/s (177.3lb/s)
- Exhaust temperature: 543° C (1,009° F)
- NO_x emissions (with DLE, corrected to 15 % O_2 dry): ≤ 25ppmV

Mechanical drive **25.40MW (34,100bhp)**

- Fuel: Natural gas*
- Efficiency: 35.1 %
- Heat rate: 10,258kJ/kWh (7,250Btu/bhph)
- Turbine speed: 7,700 rpm
- Compressor pressure ratio: 14:1
- Exhaust gas flow: 80.4kg/s (177.3lb/s)
- Exhaust temperature: 543° C (1,009° F)
- NO_x emissions (with DLE, corrected to 15 % O_2 dry): ≤ 25ppmV



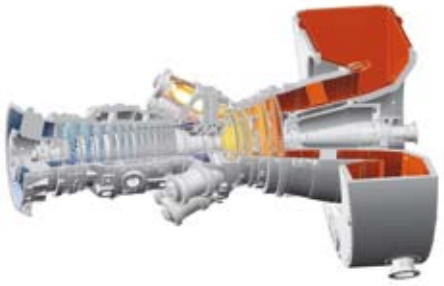
SGT-700

Power generation **31.21MW(e)**

- Fuel: Natural gas*
- Frequency: 50/60Hz
- Electrical efficiency: 36.4 %
- Heat rate: 9,882kJ/kWh (9,367Btu/kWh)
- Turbine speed: 6,500 rpm
- Compressor pressure ratio: 18.6:1
- Exhaust gas flow: 94kg/s (208lb/s)
- Exhaust temperature: 528° C (983° F)
- NO_x emissions (with DLE, corrected to 15 % O_2 dry): ≤ 15ppmV

Mechanical drive **32.04MW (42,966bhp)**

- Fuel: Natural gas*
- Efficiency: 37.4 %
- Heat rate: 9,629kJ/kWh (6,806Btu/bhph)
- Turbine speed: 6,500 rpm
- Compressor pressure ratio: 18.6:1
- Exhaust gas flow: 94kg/s (207lb/s)
- Exhaust temperature: 528° C (983° F)
- NO_x emissions (with DLE, corrected to 15 % O_2 dry): ≤ 15ppmV



SGT-750

Power generation **35.93MW(e)**

- Fuel: Natural gas*
- Frequency: 50/60Hz
- Electrical efficiency: 38.7 %
- Heat rate: 9,296kJ/kWh (8,811 Btu/kWh)
- Turbine speed: 6,100 rpm
- Compressor pressure ratio: 23.8:1
- Exhaust gas flow: 113.3 kg/s (249.8 lb/s)
- Exhaust temperature: 462° C (864° F)
- NO_x emissions (with DLE, corrected to 15 % O_2 dry): ≤ 15ppmV

Mechanical drive **37.11MW (49,765bhp)**

- Fuel: Natural gas*
- Efficiency: 40.0 %
- Heat rate: 9,002 kJ/kWh (6,362Btu/bhph)
- Turbine speed: 3,050–6,405 rpm
- Compressor pressure ratio: 23.8:1
- Exhaust gas flow: 113.3 kg/s (249.8 lb/s
- Exhaust temperature: 462° C (864° F)
- NO_x emissions (with DLE, corrected to 15 % O_2 dry): ≤ 15ppmV

SGT-800

Power generation **47.00MW(e)**

- Fuel: Natural gas*
- Frequency: 50/60Hz
- Electrical efficiency: 37.5 %
- Heat rate: 9,597kJ/kWh (9,096Btu/kWh)
- Turbine speed: 6,608 rpm
- Compressor pressure ratio: 19:1
- Exhaust gas flow: 131.5kg/s (289.9lb/s)
- Exhaust temperature: 544° C (1,011° F)
- NO_x emissions (with DLE, corrected to 15 % O_2 dry): ≤ 15ppmV

No intake or exhaust loss; other gaseous, liquid and/or dual fuel options available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